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NUMBER 10

## Airways Traffic Tripled; Under Full CAA Control

Aircraft operations on the airways of the Nation have more than tripled within a year, it was reported recently by Charles I. Stanton, Acting Administrator of Civil Aeronautics.

With the commissioning of the last nine new airway traffic control centers, the CAA now has its entire 35,000 miles of airways controlled from 23 centers spotted about the country. Each of these centers handled an average of 27,000 operations during March, compared with 8,000 handled in the same month in 1941 by each of the 14 centers then functioning. The increase, CAA officials believe, is due primarily to the large amount of military flying along the airways. Over 70 percent of traffic on the airways today is by military aircraft, while the 17 percent of the traffic total chargeable to airlines represents almost entirely the movement of military personnel or businessmen on necessary travel in the war effort.

### Forty-two Control Towers

Extending its coverage of airplane movements from "ramp to ramp," at airports where such was requested by the War Department, by the middle of April the CAA was operating 42 airport traffic control towers, and by the end of this month 20 more will be under CAA control. Of these, 25 are newly established towers at airports where none was formerly maintained, and 37 were taken over from municipalities. All this airport control work was requested from the CAA by the Army Air Forces due to the large amount of military ac-

tivity on the fields concerned, and the desire to have a Federal agency controlling traffic.

These 42 towers handled an average of 9,200 operations each during March. The 20 additional towers to be taken over are at Anchorage and Fairbanks, Alaska; Bakersfield, Calif.; Baltimore, Md.; Burlington, Vt.; Cheyenne, Wyo.; Dallas, El Paso, Fort Worth, and Houston, Tex.; Harrisburg and Philadelphia, Pa.; Phoenix and Tucson, Ariz.; Knoxville, Tenn.; Minneapolis, Minn.; Niagara Falls, N. Y.; West Palm Beach, Fla.; Omaha, Nebr.; and Everett, Wash.

### Personnel Problem

Finding operating personnel for airway and airport traffic control is one of the pressing problems of Thomas Bourne, Director of Federal Airways. In each of the seven regional offices in the country, training classes will start July 1 to prepare 210 persons for airport and airway work. Both men and women trainees will be accepted. Minimum requirements are 4 years of college education, but for this there are several acceptable experience substitutes. The original requirement that such workers must have pilot licenses has been dropped. Maximum age is 50 years.

Persons successfully completing the course are assigned on a probationary basis to traffic towers and airway control centers. Applications should be made to district offices of the Civil Service Commission.

—Keep 'Em Flying—

## Army, CAA Issue Call for Glider Pilot Volunteers

An urgent call for volunteers to train as glider pilots has been issued by the Civil Aeronautics Administration following a War Department request to help locate qualified volunteers among graduates of the CAA elementary pilot training course and other licensed pilots.

The thousands of pilots who are expected to volunteer will go through a brief glider conditioning program at flying fields located in the Middlewest before swinging into action at any one of the many foreign battle fronts.

The call throws the door wide open to thousands of pilots eager for action who, until now, have been unable to enter the armed air services.

Any male pilot who holds a license of private grade or higher and who is between 18 and 35 is eligible. Any pilot who has satisfactorily completed the CAA elementary program, and glider pilots who have completed 200 or more glider flights are also eligible, as are candidates for the Air Forces who failed their screening test, but are otherwise qualified. Physical requirements are not as strict as those set up for aviation cadets. Vision may be 20/40, correctible with glasses to 20/20. Full details can be obtained from CAA pilot training representatives.

### Awarded Wings

Applicants will be enlisted as privates, and upon completion of the course be awarded wings and rated as staff ser-

(See Glider Pilots, page 126)

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## AIR TRANSPORTATION

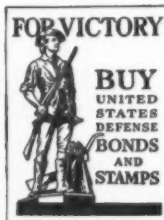
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## Glider Pilots

(Continued from page 125)

agents, with a monthly income approximately \$180, including allowances. After further experience and demonstration of leadership qualities, they will be in line for commissioning.

"There are nearly 85,000 pilots in this country who have private licenses," CAA Administrator Charles I. Stanton said. "There are 160 who have glider pilot licenses. There are many who are not physically fitted for active combat work in the powerful, fast airplanes with which we are fighting, and it is these who are the logical glider pilots. They have the skill already. All they need is the specialized training which these courses will give them. Thereafter, the door to interesting and effective service to their country is open to them."

After a refresher course on light planes, which will feature "dead-stick", power-off landings, candidates will receive instruction on small and large gliders at Army glider schools.

## Aeronautical Legislation

Listed below are recent measures concerning aeronautics pending before, or enacted by, Congress. A complete list of laws concerning aeronautics passed by the Seventy-Seventh Congress during the first session and pending measures carried over into the second session was printed in the March 1, 1942, issue of the Civil Aeronautics Journal. The compilation here together with those appearing in intervening issues of the Journal brings the list up to date.

### Bills Introduced

- S. 2496—NAVAL AIRCRAFT (Walsh): a bill to authorize the construction or acquisition of additional naval aircraft; referred to the Committee on Naval Affairs.
- S. 2515—FEDERAL EXPLOSIVES ACT (Reynolds): a bill to amend the Federal Explosives Act by removing from the application of the act explosives or ingredients in transit upon aircraft in conformity with statutory law or rules and regulations of the Civil Aeronautics Board; referred to the Committee on Mines and Mining.
- H. R. 7107—FEDERAL EXPLOSIVES ACT (Smith): a bill to amend the Federal Explosives Act by removing from the application of the act explosives or ingredients in transit upon aircraft in conformity with statutory law or rules and regulations of the Civil Aeronautics Board; referred to the Committee on Mines and Mining.
- S. 2553—ARMY FLIGHT OFFICER (Reynolds): a bill to create the title of flight officer in the Army Air Forces and to amend the Army Aviation Cadet Act; referred to the Committee on Military Affairs.
- H. R. 7129—ARMY FLIGHT OFFICER (May): a bill to create the title of flight officer in the Army Air Forces and to amend the Army Aviation Cadet Act; referred to the Committee on Military Affairs.
- H. R. 7069—DIVISION OF AVIATION EDUCATION (Randolph): a bill to establish a Division of Aviation Education in the United States Office of Education, Federal Security Agency; referred to the Committee on Education.
- H. Con. Res. 64—AIRCRAFT PILOT AND MECHANICS (Thill): a resolution urging the Civil Aeronautics Administration immediately to institute an aircraft pilot and mechanics training program in high schools; referred to the Committee on Interstate and Foreign Commerce.



As a measure to reduce the number of accidents involving stalls and spins, many of them fatal, the Technical Development Division of the Civil Aeronautics Administration has undertaken the development of a stall warning indicator for private-owner type aircraft. The aim of this project is to obtain a simple, reliable, yet inexpensive, device that will function under all possible flight conditions, except those involving ice accretion since few private-owner type aircraft are equipped for operation under icing conditions.

Such a device was recently flight tested at the CAA Experimental Station in Indianapolis. This particular instrument is the development of a type suggested by Dr. Leonard Greene, aeronautical engineer with a private aircraft firm. The instrument consists essentially of a horizontal, forwardly extending vane, free to rotate about a horizontal axis between two fixed vertical vanes secured to the surface of the leading edge of the wing. The movable vane is so counterbalanced that at all normal angles of attack of the aircraft it is aerodynamically held against a stop and is not caused to rotate by external accelerations. However, when the angle of attack is increased to a predetermined value, the vane is acted upon aerodynamically so as to rotate and complete an electrical circuit which causes a sound warning device to function within earshot of the pilot.

The instrument was flight tested on three types of planes. In each instance it was possible to adjust the angular setting of the device in two flights in order that a warning could be obtained at a speed of from 5 to 10 miles an hour in excess of the stalling speed.

The pilots engaged in the flight testing program were favorably impressed with the operation of the instrument.

Some minor modifications in construction are believed desirable before a marketable device will be available.

### Bills Passed

- S. 2382—NAVAL PILOT: the bill to provide for the establishment of the designation of naval pilot (airship) was passed by the House.
- S. 2446—CADET ALLOWANCES (Reynolds): a bill to prescribe the pay and certain allowances for cadets of the United States Military Academy undergoing flight training and aviation instruction was passed by the Senate and House.

## New Aeronautical Publications

Among recent Government publications dealing with the subject of aeronautics are the following:

**AMERICAN AIR ALMANAC.** May-August, 1942. Pages 241-486, chart. (Navy Dept., Nautical Almanac Office.) The object of this volume is to provide in convenient form the astronomical data required for aerial navigation. Price \$1. Classification number N 11.6/3:942/2.

**ARMY TECHNICAL MANUAL 6-210.** Conduct of field artillery fire using air observation. March 21, 1942. 47 pages illustrated. Supers: des TM 6-210, Apr. 5, 1941. Price 10 cents. Classification number W 1.35: 6-210.

**NAVIGATION TABLES FOR MARINERS AND AVIATORS.** 6th edition. 1942. These tables are designed to facilitate the navigation of surface craft or aircraft. Used with the nautical or air almanacs, no other books are required. 109 pages. (Hydrographic Office, H. O. No. 205.) Fabrikoid. Price \$1.20. Classification number N 6.8: 205/-942.

**WOMEN WORKERS.** Women's factory employment in an expanding aircraft production program, 1942. Series of reports on women's present and possible employment in war industries, based on field surveys by Women's Bureau investigators since early spring of 1941. 12 pages. Price 5 cents. Classification number L 13.3: 189-1.

When ordering these publications, send remittance by postal money order, express order, coupons, or check to the Superintendent of Documents, Government Printing Office, Washington, D. C. Always give title, issuing office, or classification number when listed.

## Pittsburgh Schools Give Aviation Course

The Board of Education in Pittsburgh, Pa., has instituted an aviation course in its high schools in which there are now nearly 600 students enrolled. The course is open only to seniors and is included in the regular courses of study. Students who successfully complete the course are given regular credits.

The course covers two full semesters with classes every school day during regular school hours and covers the same subject matter as is covered by Government approved primary ground schools.

The present course is a forerunner to an expanding program for aviation training which, it is anticipated, will soon include vocational training in all branches of aviation.

This is in line with the national effort to "air condition" the youth of America and to prepare them to take their places in a world transformed by air transportation.

Similar courses are already projected for the high schools at Dormont, Mount Lebanon, Bradford, and Johnstown, Pa.

### United States Engines on British Planes

American-made engines are being installed in British-designed bomber-torpedo planes being built in Australia.



## High School Boys To Receive CAA Pilot Training

Initiation by the Civil Aeronautics Administration of an experimental program to provide flight training for boys still in high school has been approved by Charles I. Stanton, Acting Administrator.

In the past, the facilities of the CAA pilot training program have been directed toward American youths of college age, with 90 percent of the 70,000 pilots produced by CAA since 1939 having received their training through the colleges and universities participating in the CAA program. The remaining 10 percent were trainees 18 to 26 years of age who won their flight training scholarships in competitive noncollege ground school courses.

Soon, however, 210 high school boys enrolled in 21 high schools scattered over the United States will attend their first ground school classes and make their first dual flights. The schools where the ground training will be given have been selected and contacts have been established with qualified flight contractors. In order that nothing will delay prompt commencement of the training when the "go-ahead" signal is received by the regional CAA supervisors, applications from students in the high schools chosen for the experiment are now being accepted.

### Age Limit Lowered

To open the courses to boys of high-school age, the minimum age requirement for CAA training has been dropped to 17. The applicant must be a male citizen of the United States and must be regularly enrolled in high school. He must be able to pass the physical requirements set up for participants in regular CAA courses. If he is 18 or over, an integral part of his enrollment will be his enlistment in the reserve of the armed air forces. If he is not yet 18, he must sign a pledge in affidavit form to the effect that upon attaining his eighteenth birthday he will apply for enlistment in the reserve, regardless of whether he is still receiving CAA training or has completed it. If the applicant is under 21, parental consent must be obtained for either immediate enlistment or pledge of future enlistment.

The experimental program will be given at the following locations: Columbus, Ga.; Idaho Falls, Idaho; Danville, Ill.; Anderson, Ind.; Battle Creek, Mich.;

## Citizens Sponsor Pilot Training Of Local Boys

A plan whereby groups of citizens in various communities sponsor the training of local boys as pilots for the Army Air Forces is being put into effect on a large scale throughout the Southwest.

Ed Nilson, superintendent of civilian pilot training for the fourth region of the Civil Aeronautics Administration, including Southwestern States, met lots of Texas, Oklahoma, and Arkansas men who found buying bonds not enough to satisfy their urge for war work. He knew that boys not in college have to battle for their CAA flying training by taking competitive examinations in their ground school subjects, and that there were hundreds of boys unable to get CAA training under those conditions. So he went back to his college days, back still further to the days of chivalry, and cooked up a scheme that has swept his region with enthusiasm.

First the Air Forces promised that it would do its best to keep groups from one town or city together in service. That took care of morale and hometown pride, and undoubtedly started the search for good names. Then the CAA agreed to match all scholarships donated by the citizens or organizations of any town, and to add these to the programs under way in the schools of contractors doing such training.

Thus there will be young Americans in the air wearing the "colors" of older men back home, or of the Kiwanis, Lions, Rotary, and Cosmopolitan clubs and similar organizations.

Now, there are 60 "home-town" boys whose training is sponsored by their fellow-townsmen, to the tune of \$350 for each course, in the following towns: Odessa, McAllen, and Cisco, Tex., five each; Tyler, Tex., 10; Hot Springs, Ark., 10; North Little Rock, Ark., 8; Tulsa, Okla., 5; Bossier City, and Franklin, La., 5 each; Carlsbad, N. Mex., 6; and Hobbs, N. Mex., 5.

Mexico, Mo.; Roswell and Santa Fe, N. Mex.; Jamestown, N. Y.; Duncan, Okla.; Baker, Oreg.; York, Pa.; Watertown, S. Dak.; and Danville, Va.; Ensley High School, Birmingham, Ala.; Modoc Adult High School, Alturas, Calif.; East High School, Waterloo, Iowa; Flathead County High School, Kalispell, Mont.; Pershing County High School, Lovelock, Nev.; Box Elder High School, Brigham City, Utah, and St. John's Military Academy, Delafield, Wis.



## Proper Execution Of Flight Plan Sound Insurance

Following is the text of a safety bulletin issued by the Safety Bureau of the Civil Aeronautics Board:

### XC Flight Plans and the Private Pilot

The proper execution of a flight plan prior to departure is sound insurance against emergencies. Meteorology enters deeply into the flight plan, and pilots may have experienced difficulty in obtaining adequate information since War restrictions have been imposed. The amount of information available to properly identified pilots is limited, making it more important than ever to exercise judgment in the planning of flights wherever meteorological conditions of an unfavorable nature may be involved.

Whether he flies for pleasure or for profit, the pilot is protected against weather hazards by an extensive organization designed to insure his safety. This protection is available for the asking, there being required only a normal amount of interest to obtain the information, then a normal amount of flying intelligence to use it effectively.

The complaint is sometimes heard that meteorological information from Weather Bureau forecasters is too vague, or that it is too difficult to "pin them down" to a definite opinion. Were this same pilot to taxi to the gas pit and announce that he needed service, without specifying fuel, oil, or amount, he would hardly consider it unusual if the service proved to be unsatisfactory. Yet, it is quite usual for a pilot to request weather information and volunteer few or no basic details to guide the airways forecaster. The emphasis which the forecaster places upon certain features of the weather situation is governed largely by the type of flight contemplated, equipment used, pilot limitations, route, distance and time involved, and so forth. It is, therefore, obvious that unless this information is included in the request for a forecast, the meteorologist is at a disadvantage and must treat the matter in broad generalities.

Before departing upon any flight away from the locality of the airport, the Safety Bureau recommends:

1. Check the weather. It can and does change remarkably over comparatively short distances.
2. When consulting with the airways forecaster, give him enough information to make the discussion apply to a specific problem.
3. Be conservative.

### Neon Tube Aids Pilot

A neon tube has been developed which can be mounted on the instrument panel in a plane and through a newly perfected electrical hook-up inform the pilot the instant any engine trouble develops.



## Fatal Accidents Decrease During April

There were six fatal accidents in non-air carrier flying reported to the Safety Bureau of the Civil Aeronautics Board for the month of April 1942. In the course of a private flight test, the wing fabric of the aircraft failed, resulting in fatal injury to the pilot. In another,

a pilot who did not have an instrument rating, crashed during conditions of instrument weather.

A table showing the fatal accidents in March 1941 and 1942 and April 1941 and 1942 follows:

	Nonair carrier				Scheduled air carrier		Total
	Instructional	Pleasure	Commercial	No details	Domestic	Foreign	
April 1942.....	1	1	—	14	—	—	6
April 1941.....	5	5	1	—	—	—	17
March 1942.....	1	—	2	10	—	—	13
March 1941.....	3	11	—	1	—	—	15

<sup>1</sup> Investigator reports not yet received.

## INDIVIDUAL ACCIDENT REPORTS

### Plane Falls Off in Spin As Pilot Opens Door

An accident which occurred near Grand Rapids, Mich., on November 22, 1941, resulted in fatal injury to the pilot, Gus Kovach. He held a student pilot certificate and had accumulated about 60 solo hours. The aircraft, an Aeronca, Model C-3, was extensively damaged.

Kovach left the Kent County Airport, Grand Rapids, on a solo pleasure flight to an uncultivated farm field, about 8 miles distant, near the home of a friend. When he reached that vicinity, witnesses observed the aircraft as the pilot flew at a low altitude over his friend's home. He made a 180° turn and again flew toward the house at a very slow speed and at an altitude estimated as 200 feet. As he neared the house, Kovach throttled the engine, opened the left door, and leaned out. Immediately after the door was closed, the aircraft stalled and fell off to the left in a spin. Kovach applied power, but the spin continued through about 1½ turns until the aircraft struck the ground on its left wing and nose.

Investigation revealed no evidence of failure of the structure or control system prior to impact. The condition of the propeller indicated that considerable power was being developed at the time of the crash. The weather had no bearing on the accident.

**Probable cause.**—Failure of pilot to maintain flying speed while maneuvering at low altitude.

**Contributing factor.**—Action of the pilot in diverting his attention from the operation of the airplane.

### Failure to Open Fuel Valve Causes Crash on Take-Off

Arthur H. Barr was seriously injured in an accident which occurred at Prescott, Ark., on November 3, 1941, about 4:30 p. m. He held a student pilot certificate and had flown approximately 20 hours solo. The aircraft, a Porterfield, Model FP-65, was demolished.

After about 2 hours practicing landings at the Hope-Prescott Airport, the pilot took off on another practice flight. At an altitude estimated as between 50 and 100 feet, the engine stopped, and the aircraft stalled. It fell into a spin, and after about half a turn, struck the ground.

Investigation disclosed no evidence of failure of the control system or structure prior to impact. Examination of the propeller revealed that the engine was developing no power at the time of the crash. Inspection of the engine disclosed no evidence of internal malfunctioning, but inspection of the fuel system revealed that the fuel valve had not been opened prior to the take-off. The take-off was not witnessed, but an attendant at the field stated that he noted the sudden cessation of engine operation almost immediately after the take-off, and that upon rushing to the hangar door, saw the plane in a spin. The injuries suffered by the pilot resulted in his total loss of memory regarding the flight.

**Probable cause.**—Stall and spin at low altitude, following engine failure.

**Contributing factor.**—Failure of pilot to open fuel valve before take-off.

—Keep 'Em Flying—

## Plane Flies Into Tree After Circling Field

An accident which occurred at Winchendon, Mass., on November 28, 1941, resulted in fatal injury to the two occupants of a Model J3-F-65 Piper aircraft, both of whom were certificated pilots. Robert Hilchey held a commercial pilot certificate and was qualified to fly aircraft of not more than 80 horsepower. He had accumulated about 470 hours of flying time. Vito F. Suglia held a private pilot certificate and was qualified to fly aircraft of not more than 80 horsepower. He had accumulated approximately 120 flying hours.

Hilchey and Suglia left Gardner, Mass., about 7:30 a. m., and flew to Wells Beach, Me., a distance of about 90 miles. Early in the afternoon they left for the return trip to Gardner. Suglia occupied the rear, and Hilchey the front cockpit. Shortly before 2 p. m. the aircraft was observed in the vicinity of Winchendon, which is about 8 miles from the Gardner Airport and a little west of a direct course between Wells Beach and Gardner. There the pilot made two small circles over a small field at an altitude of not more than 80 feet, followed by a wider circle. He then proceeded over a stretch of woodland at an altitude lower than the tallest trees and flew directly into one of these tall trees. Immediately upon impact the aircraft burst into flames and nosed into the ground.

Examination of the wreckage revealed no indication of failure of the control system. The condition of the propeller indicated that the engine was developing power at the time of impact and witnesses stated that the engine apparently operated in a normal manner until the crash occurred. Due to lack of witnesses, the flight path of the aircraft before it was observed at Winchendon could not be constructed, but there is no evidence to indicate that any stop, except that at Wells Beach, was made. The amount of fuel aboard could not be determined, but if the plane had been serviced to capacity before departure from Gardner, there would have been ample fuel for the entire trip. The weather conditions were excellent with ceiling and visibility unlimited and both pilots were familiar with the area in which the accident occurred. There is no apparent reason for the pilot to have attempted a landing on the small field which he circled. The dual controls were connected, and it was impossible to determine which pilot was flying the plane on any part of the flight. The evidence indicates that the pilot was "hedge-hopping."

**Probable cause.**—Failure of the pilot to avoid a tree while flying at low altitude.

## Contact Flight Fatal During Bad Weather

Charles A. Gropstis and Livingstone Wernecke were fatally injured in an accident which occurred on Salal Island, British Columbia, Canada, on October 21, 1941. Gropstis, the pilot, held a commercial certificate with 28 Land and Water, 5 Water, and Instrument ratings. He had accumulated about 4,331 flying hours. Wernecke, the passenger, held no type of airman certificate. He owned the aircraft, a Bellanca, Model 31-50, which was equipped with floats. It was demolished.

Gropstis, accompanied by Wernecke, left Hyder, Alaska, about 9 a. m., October 21, on a business trip to Alert Bay, British Columbia. No stops were contemplated en route. Persons at Bute-dale, British Columbia, saw the aircraft late in the morning and lighthouse keepers farther along the course also reported seeing the plane flying at a very low altitude under a low ceiling which was accompanied by poor visibility. The aircraft was last seen as it was flying about 50 feet above the water of Clam Passage which is about 230 miles from Hyder. As it flew toward the northwest the witnesses' view was obscured by fog and a few minutes later they heard the aircraft crash.

The weather along the route between Hyder and Alert Bay was below the minimums prescribed by the Civil Air Regulations for contact flight. Weather conditions at the scene of the accident included a ceiling estimated as 50 feet and visibility of  $\frac{1}{2}$  mile. Whether Pilot Gropstis availed himself of weather reports before departure could not be established. The aircraft was equipped with a two-way radio, but apparently it was not used on the flight. Although the aircraft was equipped for instrument flight, the pilot evidently was attempting to maintain contact flight. Gropstis had had about eight years flying experience in Alaska and had flown this route many times.

Inspection of the wreckage indicated that the aircraft had struck trees on the eastern bank of Salal Island and rolled down to the beach below. The pilot had evidently elected to fly contact along the Inland Waterway which, as it passes Salal Island, merges into Milbanke Sound. It was necessary for the pilot to change course sharply to the left here, and under conditions of restricted visibility such as prevailed at the time it would be very easy to lose sight of land at this point and, if an attempt were made to turn back toward land, to fly into Clam Passage which is very small and surrounded on all sides by wooded hills.

**Probable cause.**—Action of the pilot in continuing a contact flight under adverse weather conditions.

## Poor Technique of Pilot Blamed for Stall, Spin

An accident which occurred at Grimes, Iowa, on October 25, 1941, resulted in serious injuries to the pilot while the passenger escaped injury. The pilot, Wilbur Clark, held a private pilot certificate with a Class 1 Land rating and had accumulated about 175 flying hours. The passenger, Donald E. Gibson, held no type of airman certificate. The aircraft, owned by the pilot, was a Taylorcraft, Model A-40-A, powered by a 40 horsepower Continental engine. It was severely damaged.

The pilot, accompanied by his passenger, was taking off from the Dodge Airport at Grimes, on a local pleasure flight. The wind was from the southwest at a velocity estimated as 14 miles per hour. Witnesses noticed that as the airplane left the ground, the left wing was low, and that the airplane continued in a banked attitude as it climbed. The pilot climbed the aircraft steeply, and at an altitude of approximately 75 feet the aircraft stalled and fell off to the left in a spin. The pilot cut the switch and after completing about half a turn in a spin the aircraft struck the ground on its nose.

Investigation revealed no evidence of failure of the control system or structure or of malfunctioning of the engine during flight. The pilot had flown only 2 hours and 20 minutes in the type aircraft involved, which is equipped with a wheel control. All of his other flying time had been acquired in an aircraft equipped with a stick control and with a more powerful engine, and he had received no check-out in the Taylorcraft at the time he purchased it.

The dual rudder controls were connected during the subject flight.

**Probable cause.**—Poor technique of the pilot.

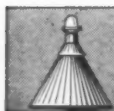
**Contributing factor.**—Pilot's lack of experience in the type aircraft involved.

## Mail Rates Fixed For Inland Routes

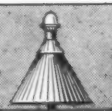
The Civil Aeronautics Board has fixed the rates of mail pay on Inland Air Lines, Inc.'s route No. 28 from Cheyenne, Wyo., to Great Falls, Mont., and route No. 35 from Cheyenne, to Huron, S. Dak.

Effective from August 6, 1941, the carrier will receive 39.68 cents per airplane mile to be paid for a base poundage of 300 pounds of mail. The new rate will result in a substantial increase in mail revenue to the company whose former rate was 33 cents and 33½ cents per air mail mile flown.

On May 15, 1942, the company was directed to "show cause" why the Board should not make final its tentative findings and conclusions in regard to the carrier's mail rates. No objections were filed.



# Airport Management Forum



## Skidding on Asphalt Runways Raises Paving Question

A problem in connection with asphaltic concrete wearing surfaces has been presented by Woodruff De Silva, director of the Los Angeles Airport.

"An item that has caused us considerable concern," writes Mr. De Silva, "is the fact that in test operations when in the landing of an aircraft brakes are locked there is an apparent skidding and fusion of the asphalt, which certain manufacturers have complained about, claiming that our Seal Coat was too heavy. The Seal Coat application, however, was only about one-tenth of a gallon per square yard. It is our feeling in this matter that in order to maintain long life of asphaltic runways, it is necessary to apply light Seal Coat from time to time. This preserving of runway surfaces is more important than the occasional skidding of aircraft due to locking of the wheels in a test operation. It is further questionable in our mind as to whether or not the Seal Coat has any bearing on the case, since the excessive heat generated by a comparatively large tire print area would have a tendency to induce the asphalt binder within the surface course to 'bleed' to the otherwise dry surface."

### Specification Suggested

As an answer to this problem, CAA Specification No. P-604 (Bituminous Seal Coat) is suggested. This specification has been prepared by the paving engineers of the Airport Division, Civil Aeronautics Administration, in collaboration with the paving engineers of the Office of Chief, United States Corps of Engineers.

In the specification an attempt is made to accomplish the following objectives:

1. Create a sandpaper finish which is skid proof due to many points of contact.

2. Construct a surface that will do a minimum amount of damage to tire rubber and yet give necessary tire resistance.

3. Prevent propeller pick-up with resultant damage to fuselage and to propellers of aircraft.

4. Completely heal any hair cracks through softening up and kneading by rolling of upper strata of wearing surface while in temporarily softened condition.

Definite specifications are set up controlling the type of bituminous material and gradation of aggregate. In preparing these specifications, the various material types and construction meth-

ods have been considered and those specified are believed to be the most desirable.

### Treating Hair Cracks

It is further explained in the introduction to CAA Specification P-604 that in rolling dense graded mixes, hair cracks may develop which collect water and result in serious pavement damage. In highway work these cracks are soon ironed out under traffic. By using an RC-2, the naphtha will slightly penetrate and soften up the top of the compacted pavement, putting it back into a temporarily workable condition which if taken advantage of by broom dragging and rolling with a rubber-tired roller will completely heal all cracks and at the same time work into the bituminous material a large quantity of sand. No objection will be made with reference to supplementing the multi-wheeled rubber-tired roller with a smooth roller. However, in order to obtain the kneading of the surface and the healing of the hair cracks, the majority of the rolling should be done with the rubber-tired roller.

If an MC material with a kerosene flux or a very light SC material were used, the softening up of the top layer of the runway wearing surface proper would be permanent with disastrous results. The softening caused by a small percentage of naphtha as is contained in the RC-2 as specified is only temporary or for such length of time as is required to accomplish the desired results.

CAA Specification No. P-604 may be obtained from the Airport Division, Civil Aeronautics Administration, Washington, D. C.

## Deadline Extended To Aid Airline Work

The deadline for airplane mechanics and aircraft dispatchers obtaining identification cards was moved up from May 15 to June 15. The extension was granted to give time for obtaining birth certificates so that airline work, essential to the war effort, would not be affected.

The cards, which must carry the holder's signature, photograph and fingerprints, were ordered by the Civil Aeronautics Board in an amendment to the Civil Air Regulations. Mechanics are described as all persons who work "in connection with the inspection, maintenance, overhaul, or repair of aircraft, aircraft engines, propellers, or appliances thereof, or as a parachute rigger." The cards will be required in addition to the currently effective certificates which mechanics and dispatchers must carry.

## Method Suggested For Waterproofing Contact Lights

It has been brought to the attention of the Airport Division of Civil Aeronautics Administration that some of the engineers who are designing airports hesitate to specify or accept contact light installations due to the difficulty experienced in the past in making them absolutely watertight.

In a recent letter to the CIVIL AERONAUTICS JOURNAL, Woodruff De Silva, director of Airports at Los Angeles, stated that his Department was experiencing difficulty in the accumulation of moisture in units of the air port contact lights. "Due to the accumulation of moisture," he wrote, "erosion sets in and shorts cut-out fuses at the base of the fixtures."

As an aid to all airport managers in coping with this problem, the CAA Airport Division presents here an outline of a scheme, developed by the Westinghouse Co., of reinforcing the construction of a contact light assembly, in order to completely eliminate any possibility of leakage. The scheme consists of the following procedure:

A special compound is applied to the contact light head top directly beneath the lower lens gasket, so that there is no possibility of leakage between the gasket and the cover plate. The gasket is then cemented to the lower edge of the lens, so that a permanent shield will be set up between the ends and the gasket, thus eliminating any possibility of leakage at this point.

### Results Satisfactory

This method has been used by the Westinghouse Co. to waterproof all contact light units shipped by them for the past several months. Many of these have been installed and tested, and the results obtained have been reported as very satisfactory.

A somewhat similar method has been used with success for moisture-proofing the contact light units at the Washington National Airport, and at Bowman Field, Louisville, Ky.

After the units have been installed, it is necessary to seal them with compound to assure watertight operation and a minimum amount of maintenance. It is recommended that a high voltage hard compound be used. Precaution should be taken to pour the compound at the temperature specified by the manufacturer in order to provide a satisfactory seal. This precaution is especially important in winter when cold

(See Contact Lights, page 132)





## Board Statement Explains Status Of Air Carriers

### Some Air Transport Services Suspended To Aid War Effort

The Civil Aeronautics Board, in furtherance of the war effort, has issued orders authorizing the temporary suspension of scheduled air transport services at a number of points in the United States.

Service at the following points is temporarily discontinued:

Aberdeen, S. Dak.; Albany, N. Y.; Bismarck, N. Dak. (suspended on Mid-Continent Airlines only); Bridgeport, Conn.; Caribou, Maine; Douglas, Ariz.; Elko, Nev.; Galveston, Tex.; Helena, Mont.; Idaho Falls, Ida.; Iowa City, Ia.; Lewiston-Auburn, Maine; Lincoln, Nebr.; Meridian, Miss.; Millinocket, Maine; Minot, N. Dak.; New Haven, Conn.; Niagara Falls, N. Y.; Red Bluff, Calif.; Springfield, Mass.; Utica, N. Y.; Waterville, Maine; Wenatchee, Wash.; Yakima, Wash.; Brunswick, Ga.; Daytona Beach, Fla.; Wilkes Barre, Pa.; Huntington, W. Va.

Service on the following routes or segments of routes, and at the intermediate points between the terminals indicated, also was temporarily suspended:

American Airlines between Boston, Mass., and Syracuse, N. Y.; Continental Air Lines between Pueblo, Colo., and Tulsa, Okla.; Eastern Air Lines between Nashville, Tenn. and Florence-Sheffield-Tusculumbia, Ala.; between Memphis, Tenn., and Tallahassee, Fla.; between Atlanta, Ga., and Tallahassee, Fla.; between Tampa and Tallahassee, Fla.; between Evansville, Ind., and Louisville, Ky.; and between St. Louis, Mo., and Nashville, Tenn.; Inland Air Lines between Cheyenne, Wyo., and Huron, S. Dak.; Mid-Continent Airlines between Minneapolis-St. Paul, Minn., Des Moines, Ia.; and Kansas City, Mo.; and between Des Moines and St. Louis, Mo.; Northeast Airlines between Boston, Mass., and Montreal, Canada; Northwest Airlines between St. Paul-Minneapolis, Minn., and Duluth, Minn.-Superior, Wis.; and between Spokane, Wash., and Portland, Ore.; Pennsylvania-Central Airlines between Norfolk, Va., and Knoxville, Tenn.; between Washington, D. C., and Buffalo, N. Y.; between Grand Rapids, Mich., and Chicago, Ill.; and between Muskegon, Mich., and Chicago, Ill.; Transcontinental & Western Air between Phoenix, Ariz., and Las Vegas, Nev.; and between St. Louis, Mo., and Cincinnati, Ohio; and United Air Lines between Pendle-

ton, Ore., and Spokane, Wash.; and between Los Angeles and San Diego, Calif.

These suspensions, the Board stated, were made necessary by the transfer of a substantial part of the aircraft of the commercial airlines to the Army Air Forces, recently announced by the War Department.

Every stop that is removed from an air line saves a number of minutes otherwise required for making a landing, taxiing about the field, and taking off and climbing back to the operating altitude. To secure the greatest possible amount of service from a limited number of airplanes with a limited seating capacity, as many intermediate stops as possible must be eliminated.

The military directive, upon which the equipment transfers were based, contemplates that air routes vital to the country's needs will continue, subject to the enforcement of a strict system of passenger priorities; but that schedules and stops not regarded as essential to the war effort will be terminated in order to make possible the highest utilization of the reduced equipment which is available to the airlines.

The Board indicated that further service suspensions might be required from time to time. All services suspended because of the emergency needs are to be restored when the war requirements no longer necessitate the suspension.

### Coast Pick-Up Service Denied to 4 Air Lines

Applications of West Coast Airlines, Inc., Southwest Airways Company, Western Air Lines, Inc., and United Air Lines Transport Corporation, for temporary authority to inaugurate air transportation pick-up service along the west coast between the States of California, Oregon, and Washington, have been denied by the Civil Aeronautics Board. The denial of the temporary certificates is without prejudice to future consideration of the applications for permanent certificates, the Board stated.

The Board's order of December 12, 1942, stated that no hearings would be assigned on applications of public convenience and necessity unless it found that national interest required the services involved. The decision to consider the applications at this time was based solely upon the possible value of the proposed operations to the military services and a public hearing was held on April 6, 1942. The Board stated that it could not find that the national defense requires the proposed pick-up service.

*The following statement was issued by the Civil Aeronautics Board relative to the status of the air transportation system in connection with the national war effort:*

The recent announcement by the War Department made in connection with the President's directive for a further coordination and integration of domestic air transportation with the activities of the military service, illustrates the truth expressed by the President on January 24, 1939, when he asserted that "the country's welfare in time of peace and its safety in time of war rests upon . . . an economically and technically sound air transportation system."

The President's recent directive contemplates the transfer of a substantial portion of the available flight equipment to Army Air Forces to be operated by the various services and commands of the Army; the conversion of a substantial number of ships into cargo carriers to be operated by airline personnel under contract for the air service command; and the use of the remainder of the equipment (about one-half of the present supply of the domestic lines) by the airlines in the continuance of their regular scheduled operations, subject to their availability for military missions in emergencies. Routes and schedules in airline operation which are not regarded as essential to the war effort will be terminated to make possible the highest utilization of the reduced equipment which is available to the lines. Air travel vital to the country's needs will continue, subject to the enforcement of a strict system of priorities.

### Error in Press Reports

The facts as stated make clear the error in press reports which announced that the operation of the airlines had been taken over by the War Department. While the scheduled airline services have been limited primarily to the war purposes and arrangements have been made for a closer adaptation of those services to the war needs, and while the number of schedules have been substantially curtailed and in some instances routes suspended, the airlines will continue to render service under their certificates of public convenience and necessity and in accordance with the regulatory authority of the Civil Aeronautics Act. The whole-hearted fashion in which the air carriers have cooperated with the military services in furtherance of the war effort has made it possible for them to continue operating under private management, even though they now constitute essentially an arm of the national defense.

Thus the Civil Aeronautics Board and its staff are assured that their work

(See Air Carriers, page 134)

## Board Names Acting Senior Investigator

The Civil Aeronautics Board today announced the appointment of Herbert V. Shebat as acting senior air safety investigator of the Safety Bureau's Chicago office to succeed William A. Butters, who has been called for active duty in the Army Air Corps.

Mr. Shebat served in the United States Army as aviation cadet and later entered the Navy from which he was honorably discharged as ensign. From 1919 to 1928, he was engaged in several engineering projects, later becoming assistant inspector of Naval aircraft for the United States Navy in a civilian capacity. He was connected with the Wright Aeronautical Corporation for 13 years as test engineer and test pilot, after which he was appointed to the Civil Aeronautics Board as air safety investigator and assigned to the Board's field office at Pittsburgh, Pa.

Mr. Shebat holds memberships in the Institute of the Aeronautical Sciences and the Society of Automotive Engineers.

## Contact Lights

(Continued from page 130)

castings might cause the compound to harden before it has properly filled in. The compound properly poured at the correct temperature as recommended by the manufacturer will provide a solid nonporous seal under which no moisture can enter. Low pouring temperatures will cause porosity and considerable trouble.

### Watertight Joint

It is also important that all contact lights be sealed by pouring compound in the space between the body flange and the door clamping ring to obtain a watertight joint. Since a relamping cover is provided in the top of the door assembly, it is not necessary to break this seal for replacing lamps.

The cable, at the points where it enters the contact light through the conduits, should be wrapped with oakum or dry hemp so that the barriers for the compound will be provided when sealing the unit. Treated oakum must not be used with the all-rubber type cable since the wire in some types of impregnated oakum causes deterioration of the rubber jacket.

The screws on the relamping covers should be well tightened down to insure a watertight joint. The lead washers used with these screws should be checked when relamping, and replaced when necessary.

### Mounting Production

More military planes will be built during 1942 than were manufactured between the time the first military plane was delivered to the Army in 1909 and the first of the present year.

## Eastern Permitted To Serve Baton Rouge

The Civil Aeronautics Board has granted Eastern Air Lines, Inc., permission to serve Baton Rouge, La., through the use of Harding Field.

This service is subject to any amendment of Eastern's operating certificate. The carrier filed with the Board on April 18, 1942.

The Board also issued an order granting Transcontinental & Western Air, Inc., nonstop service between Kansas City, Mo., and Dayton, Ohio, on their route No. 2. The carrier filed with the Board on April 27, 1942, and is also subject to any amendment of its operating certificate.

## Opinions Available

The following Civil Aeronautics Board Opinions of Volume 3 are now available in printed form as advance sheets prior to their inclusion in a bound volume:

Opinion No. 1, UNITED AIR LINES TRANSPORT CORPORATION (*Fresno-Sacramento nonstop service*); Docket No. 517.

Opinion No. 2, ALL AMERICAN AVIATION, INC.—ADDITIONAL SERVICE; Docket No. 470.

Opinion No. 3, BRANIFF AIRWAYS, INC. (*Dallas-Kansas City nonstop operation*); Docket No. 613.

Opinion No. 4, EASTERN AIR LINES, INC. (*Chicago-Nashville nonstop operation*); Docket No. 605.

Opinion No. 5, PAN AMERICAN AIRWAYS, INC.—ACQUISITION OF PAN AMERICAN AIRWAYS-AFRICA, LTD.; Docket No. 640.

Opinion No. 6, UNITED AIR LINES TRANSPORT CORPORATION—CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY (*Service to Salem, Eugene, Klamath Falls, and Bellingham*); Docket No. 274.

Opinion No. 7, PAN AMERICAN AIRWAYS CO.—TEMPORARY CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY (*United States-Africa service*); Docket No. 442.

Opinion No. 8, CANADIAN COLONIAL AIRWAYS, LTD.—PERMIT TO FOREIGN AIR CARRIER; Docket No. 44-402 (C)-1.

Opinion No. 9, UNITED AIR LINES TRANSPORT CORPORATION—MAIL RATE PROCEEDING; Docket No. 16-406 (A)-1.

Opinion No. 10, UNITED AIR LINES TRANSPORT CORPORATION—CERTIFICATES OF PUBLIC CONVENIENCE AND NECESSITY; Docket No. 584.

Opinion No. 11, ALL AMERICAN AVIATION, INC.—MAIL RATE FOR ROUTE No. 49; Docket No. 518.

Opinion No. 12, EASTERN AIR LINES, INC.—CONSOLIDATION OF ROUTES NOS. 5, 20 AND 42; Docket No. 474.

Opinion No. 13, PAN AMERICAN AIRWAYS, INC.—CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY (*Suva operation*); Docket No. 656.

Opinion No. 14, NORTHEAST AIRLINES, INC.—MAIL RATE PROCEEDING; Docket No. 219.

Opinion No. 15, PENNSYLVANIA-CENTRAL AIRLINES CORP.—SERVICE TO ATLANTA

## Board Reopens Mail Rate Proceedings

The Civil Aeronautics Board has reopened the pending mail rate proceedings of American Airlines, Inc., and Eastern Air Lines, Inc., for the purpose of permitting the submission of additional evidence in both cases. In the American case, pending completion of the additional hearings, the Board suspended the original final order entered in that case on March 12, 1942, and fixed a rate to be tentatively applicable during the period beginning May 1, 1942.

These two cases involve various substantial issues of law and policy under the Civil Aeronautics Act, and the Board believed it advisable to reopen both cases for the purpose of receiving further evidence.

The Board indicated that it had determined to suspend its original order in the American case because counsel for American took the position that such action was required to insure that the 60-day period prescribed by the act for the filing of petitions for review of the Board's order by the circuit court of appeals would not continue to run with respect to the Board's original order. No final order has yet been issued by the Board in the Eastern case, although that case has been submitted to the Board for decision.

## Mid-Continent's Mail Rates Raised by Board

The Civil Aeronautics Board has issued an order raising the rates of Mid-Continent Airlines, Inc., for the transportation of mail on their routes, to a system rate of 41.83 cents per airplane mile which will allow the carrier approximately \$180,000 per year increase in mail revenue. An increase of about \$60,000 in retroactive pay will be paid the carrier to cover the period from December 20, 1941, the date upon which the rate proceeding was started.

A show cause order was served on April 8 and the carrier was given until April 28 to file objections. No objections were filed. Accordingly, pursuant to the show cause procedure, the preliminary show cause order was made final today. This is the third show cause order which was made final without the filing of objections by the carriers and indicates the utility of this new rate procedure.

TIC CITY, N. J.; Docket No. 243, et al.

Opinion No. 20, AMERICAN EXPORT AIRLINES, INC.—ACQUISITION OF TACA, S. A.; Docket No. 491.

Opinion No. 22, TACA, S. A. (*EL SALVADOR*)—FOREIGN AIR CARRIER PERMIT; Docket No. 602.

(See Opinions Available, page 134)





## Control Airport

Brownsville Municipal Airport, Brownsville, Tex., has been designated as a control airport in an order issued by the Administrator of Civil Aeronautics amending Part 601 of the Regulations of the Administrator of Civil Aeronautics.

# Crash Procedure Recommended for Use at Airports

More than ever before, every precaution should be taken to safeguard aviation personnel and to conserve aviation equipment. Next to eliminating accidents, the most logical step to accomplish this purpose is to make every effort to reduce the severity of accidents when they occur. In this connection, the national headquarters of the Civil Air Patrol, Office of Civilian Defense, has recently released Training Directive No. 8, which covers crash procedure. The Safety Bureau of the Civil Aeronautics Board feels that this crash procedure is well worth consideration by all airport managers and, if followed, should result in conservation of life and equipment. A well-trained and properly functioning crash crew should be the goal of every airport.

Excerpts of Civil Air Patrol Directive No. 8 are quoted below for the consideration of all interested airport managers and operations executives:

## Crash Procedure

### 1. Trained crew needed.

In the event of a crash on the airport, cool, quick, intelligent action is of utmost importance if lives are to be saved. This objective will be most effectively attained through a specially trained, properly equipped crash crew. Each member of the crew should have a definite assignment of duty in order that he may proceed to his assigned task without confusion or delay in waiting for instruction.

### 2. Organization.

The first step should be the organization of the crash crew and the delegation of authority so that one person will be in a position to make quick decisions and give necessary orders and all others will understand who is in charge. It is suggested that the engineering officer be in charge of the crash crew and be responsible for its training. The line chief should be second in charge and other crew chiefs designated as alternates so that in the event of a crash immediate action will take place. The crash crew should be made up of men who are on the line or around the hangar. Two automobiles or trucks should be designated as crash vehicles and drivers should be assigned to each. There should be at least one member who is

experienced in first aid and who has completed the first-aid course assigned to each vehicle. All members of the crash crew who have not completed the first-aid course will do so as soon as possible. There should be assigned to each crash vehicle one fire fighter who thoroughly understands extinguishing gasoline and oil fires. There should also be assigned to each crash vehicle one experienced metal worker and helper.

### 3. Preparation.

It is important to have emergency telephone numbers posted conspicuously in the hangars, operations offices and in other prominent places. This is particularly important at a new location. Suitable placards should be prepared listing: Fire department, police department, sheriff's office, Army operations, hospital, doctor, Coast Guard, Navy crash boat.

There should be a suitable alarm signal which will be sounded in the event of a crash. An automobile siren or a steel wagon tire and iron bar will do.

### 4. Fire extinguishing—Flammable liquid fires.

a. The usual method of extinguishing flammable liquid fires (gasoline, organic solvents, and light fuel oils) requires the use of an agent which will have a blanketing effect on the fire. Oxygen is excluded from the burning material by forming a layer of nonflammable gas or foam between the material and the air. Foam, carbon dioxide, and carbon tetrachloride are satisfactory for this purpose. Water should not be used on this type of fire except in the absence of the mentioned types of extinguishers. If it is used, it should be applied as a spray. A stream of water causes the burning liquid to spatter, thereby spreading the fire, while fine sprays tend to cool the liquid surface and exclude the air.

b. Foam type extinguishers may be obtained in sizes which vary from 2½ to 40 gallons. The amount of foam which may be produced is about 10 times the rated volume capacity. Foam streams should not be played into burning liquids, for the foam then emerges covered with the blazing liquid. The foam should drop gently on the surface of the liquid in order to form a smothering blanket.

c. The carbon dioxide type commonly comes in sizes containing 2 to 20 pounds of the liquid which is under pressure. One pound of the liquid carbon dioxide will expand into a gas, occupying 8.6 cubic feet, on release under normal conditions.

d. Carbon tetrachloride extinguishers are available in sizes varying from one quart to three gallons. The streams of

both this and the carbon dioxide type should be directed at the base of the flames.

e. For service at airports, crash trucks are generally equipped with four special 50-pound cylinders of carbon dioxide and a tank holding 250 gallons of the foam solution.

### 5. Crash equipment.

The following equipment is desirable for the contents of a crash kit. If all of this equipment cannot be secured, any portion will be helpful. It is recommended that the crash cars be parked near the hangar apron and marked with red flags and that while standing on duty a crash kit be stored in each car.

## Contents of Crash Kit

One extra-heavy grappling hook (triple hook) with 50 feet of strong wire cable or heavy chain attached to hook. The free end of the cable or chain should be designed for quick attachment to the crawl bar, rear axle, or bumper of a truck or automobile.

- 1 Fire axe, 5-inch cut.
- 2 Wrecking bars, one with gooseneck and one fset. Both ¾ inch x 30 inches.
- 1 Bolt-cutter, ½-inch capacity.
- 1 Cold chisel, ¾-inch cutting edge.
- 1 Pipe cutter.
- 2 Hand flashlights.
- 1 Flood-type searchlight.
- 1 Machinist's hammer ball peen, 20-ounces.
- 1 Pair strong, industrial type gloves.
- 1 Hunting knife.
- 1 Linesman's pliers, 8-inch side cutting.
- 1 Blacksmith's sledge, cross peen, 6 pounds.
- 1 Hunter's hatchet, 3½-inch cutting edge.
- 1 Pair hand tinner's snips, straight edge, 4-inch cut.
- 2 24-inch 15-point hand hacksaws.
- 1 Hacksaw frame, 8-12-inch frame with 12 10-inch hacksaw blades, 32 point.

## First Aid Kit

- 3 5-ounce tubes Tannoid, for burns.
- 2 4-inch bandage-compress.
- 2 Triangular bandages.
- 1 Tourniquet and forceps.
- 2 Wire splints.
- 2 4-inch x 6-yard bandage.
- 2 Gauze compresses.
- 1 5-inch bandage scissors.
- 1 Army type stretcher.

### 6. Procedure.

No standard procedure can be prescribed. If fire breaks out in a crash

(See Crash Procedure, page 134)

## New Type Approvals

(Approval numbers and dates of assignment in parentheses)

### Type Certificates

#### Aircraft

Timm, PT-220-C, 2-place open land monoplane. Engine, Continental W-670-6A. (750, 4-28-42.)  
Globe, GC-1, 2-place closed land monoplane. Engine, Continental A-80-9. (753, 5-13-42.)

#### Gliders

Frankfort, B, 2-place closed land monoplane, Class I or II. (7, 4-23-42.)

#### Appliances

Wollam, skis, model W-1630. Approved static load per ski 825 pounds. (148, 4-23-42.)  
Goodyear, smooth contour wheels, model 39" SC, 39-inch. Approved static load per wheel, 10,000 pounds. (149, 5-22-42.)  
Goodyear, smooth contour wheels, model 44" SC, 44-inch. Approved static load per wheel, 12,000 pounds. (149, 5-22-42.)

### New Models Added To Old Type Approvals

(Approval numbers and dates of approval of new models in parentheses)

#### Aircraft

Howard, DGA-18K, 2-place open land monoplane. Engine, Kinner R-5. Series 2. (Type Certificate No. 739, 4-17-42.)

#### Appliances

Heath, plywood floats, model 1460A. Approved maximum standard weight of airplane, 1,640 pounds (American requirements), 1,560 pounds (Canadian requirements). (145, 4-23-42.)  
Hayes, low-pressure wheels, models 1701A and 1701M, 17.00-16. Approved static load per wheel, 15,000 pounds. (Type Certificate No. 10, 5-22-42.)

#### Engines

Air-cooled motors, Franklin 4ACG-199H3, 4-cylinder horizontal opposed air-cooled with 35:22 reduction gearing, 113 horsepower at 3,500 revolutions per minute at sea level pressure altitude for all operations. (Type Certificate No. 226, 5-2-42.)

### Air Medal Created

In a recently issued Executive order President Roosevelt established an Air Medal for award to any person who, while serving in any capacity in the Army, Navy, Marine Corps, or Coast Guard of the United States distinguishes himself "by meritorious achievement while participating in an aerial flight."

### Air Carriers

(Continued from page 131)

has become tied in more closely than ever before with the war effort. They have already taken an active and major part in close cooperation with the Military Director of Civil Aviation, in the development of the plans for putting into early effect the President's directive, and will continue to discharge those regulatory functions prescribed by the Civil Aeronautics Act which are even more necessary in war than in peace.

## Opinions Available

(Continued from page 132)

Opinion No. 23, PAN AMERICAN AIRWAYS COMPANY—TEMPORARY CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY (Lisbon-Foynes operation); Docket No. 699.

Opinion No. 25, PAN AMERICAN AIRWAYS, INC.—TEMPORARY AMENDMENT TO CERTIFICATE OF PUBLIC CONVENIENCE AND NECESSITY; Docket No. 713.

Opinion No. 27, UNITED AIR LINES TRANSPORT CORPORATION—MAIL RATE PROCEEDING; Docket No. 16-406 (A)-1.

Opinion No. 34, PENNSYLVANIA-CENTRAL AIRLINES CORPORATION—SERVICE TO ELIZABETH CITY; Docket No. 619.

Copies may be obtained from the Superintendent of Documents, Government Printing Office, Washington, D. C., for 5 cents each. When ordering, include the opinion serial number and the docket number as well as the opinion title.

### Designation of Medical Examiners

During the month of April 1942 the following named physicians were officially authorized to make physical examinations for the Civil Aeronautics Administration.

ARIZONA—Dr. Marvin K. Paul, 414 East Oak Street, Kingman.

CALIFORNIA—Dr. Howard W. Ducker, 328 South Main Street, Lone Pine.

NEW YORK—Dr. George F. Reed, 119 Second Street, Troy.

OKLAHOMA—Dr. Wylie G. Chesnut, Miami Clinic, Security Bldg., Miami.

TEXAS—Dr. Alphonzo M. Reagan, 714 Medical Arts Building, Dallas.

UTAH—Dr. Wendell J. Thomson, 617 First Security Bank Bldg., Ogden.

### Examinations Discontinued

The following physicians are no longer making examinations for the Administration.

Dr. Victor W. Hart, Yreka, Calif.  
Dr. Joseph S. Stewart, Miami, Fla.  
Dr. William R. Jackson, Maryville, Mo.  
Dr. George Hoffeld, Troy, N. Y.  
Dr. Festus J. Sebastian, Dallas, Tex.

### Changes in Address

The following physicians changed their addresses during the month, their new addresses being as follows:

Dr. James Henry Goode, 1401 University Avenue, Tuscaloosa, Ala.

Dr. Harry Wright Seliger, 327 Wilshire Boulevard, Santa Monica, Calif.

Dr. Roland S. Murt, 52 South Duke Street, York, Pa.

Dr. Carvel S. Evans, 1085 South Eleventh East Street, Salt Lake City, Utah.

Dr. John Quincy Adams, 248 Dickson Building, Norfolk, Va.

### Airline Examiners

The following named physician has been designated as an Airline Medical Examiner: Dr. Alphonzo M. Reagan, Dallas, Texas.

The following named physician is no longer acting as an Airline Medical Examiner: Dr. Festus J. Sebastian, Dallas, Tex.

## Baker Transferred To War Department

The Civil Aeronautics Board has announced the temporary assignment of the vice chairman of the Board, George P. Baker, to the War Department, detailed in the Office of the Quartermaster General.

Dr. Baker became a member of the Civil Aeronautics Board in August 1940 and was appointed vice chairman on January 1, 1942. He came to the Board from Harvard University where he obtained his Ph. D. in Economics in 1934 and had been teaching since that time.

## Crash Procedure

(Continued from page 133)

It is important to remove the crew before fire reaches the tanks. There is also hazard to the rescue crew on account of possible tank explosion. In many instances twisted longerons may block escape from the plane and it may be necessary to saw or chop portions of metal work to release occupants of the plane. Where fire has broken out, grappling hooks may be used effectively to jerk out a door or a seat, or to pull open the airplane structure. Where two planes are locked together in a collision and one of the planes is burning, the crash hooks may be used effectively to snatch the planes apart before both become involved in the fire. In some cases it may be effective to fasten the crash hooks to opposite sides of the fuselage and have the two automobiles or crash vehicles pull the fuselage apart. Practical mechanics in the squadron may devise their own method of procedure and teamwork. Every man in the crash crew must know his job and the use of the tools assigned to him.

### 7. Crash crews.

Organization of crash crews may be modeled after the following plan, which may be supplemented according to the individual plan of the crash officer. This crew is intended to man two crash vehicles.

#### Crash Crew

- |                 |                 |
|-----------------|-----------------|
| 4 First aid.    | 2 Driver.       |
| 2 Fire fighter. | 4 Metal worker. |

Coolness and precision are important and confusion must be avoided. When the crash vehicles arrive at the crash, the fire fighters should go into action immediately or stand ready with their fighting apparatus and not attempt to do some other jobs. The drivers should remain seated in their vehicles ready to back into position when needed. The first-aid men, with the help of the metal workers, extricate the occupants of the plane, administer first aid and handle the stretchers.

### Air Cargo Speeded

On a recent short haul in Africa, American-made cargo planes carried more freight in 3 days than an equal number of trucks could have delivered in 25 days.

# CIVIL AERONAUTICS BOARD OFFICIAL ACTIONS

## Abstracts of Opinions, Orders, and Regulations

### ORDERS

#### ORDER No. 1712..... May 1, 1942

Vacated Orders (Serial Nos. 1395, 1687, and 1470) adjusting the rates on routes Nos. 2 and 44, and directed that, pending further order of the Board, the rates of compensation to be paid to Transcontinental & Western Air, Inc., for the transportation of mail over routes Nos. 2, 36, 37, 38, and 44 shall be as provided in Order, Serial No. 1708.

#### ORDER No. 1713..... May 4, 1942

Approved an agreement (Contract CAB-221) between Mid-Continent Airlines, Inc., and Chicago & Southern Air Lines, Inc., authorizing Mid-Continent to furnish mechanical services to Chicago & Southern at the Lambert Field Airport, St. Louis, Mo.

#### ORDER No. 1714..... May 5, 1942

Reopened proceeding in the matter of the compensation for the transportation of mail by Eastern Air Lines, Inc., for the purpose of receiving such further evidence as may be material to the issues in said proceeding.

#### ORDER No. 1715..... May 5, 1942

Reopened proceedings in the matter of the petition of American Airlines, Inc., for the determination of fair and reasonable rates of compensation for the transportation of mail over routes 4 and 23; *Provided*, That for the period beginning May 1, 1942 and pending an entry in the proceeding by the Board of its final order the rates provided for in Order, Serial No. 1598 shall prevail but that all other provisions shall be suspended.

#### ORDER No. 1716..... May 6, 1942

Amended Order, Serial No. 1572 so as to allow Kenneth C. Rickey, Sacramento, Calif., to apply for any type of pilot certificate after September 3, 1942.

#### ORDER No. 1717..... May 6, 1942

Granted Transcontinental & Western Air, Inc., permission to inaugurate nonstop service, beginning May 8, 1942, between Kansas City, Mo., and Dayton, Ohio.

#### ORDER No. 1718..... May 6, 1942

Granted permission to Eastern Air Lines, Inc., to inaugurate service, immediately, at Baton Rouge, La., through the use of Harding Field.

#### ORDER No. 1719..... May 8, 1942

Suspended for 90 days student pilot certificate No. S-279903 held by Lawrence Roy Peer, Pittsburgh, Pa., for piloting an aircraft in solo flight without

having first been certified as competent by his flight instructor in violation of the Civil Air Regulations.

#### ORDER No. 1720..... May 8, 1942

Suspended for 6 months student pilot certificate No. 334882 held by Edward G. Gregory, Albany, Tex., for piloting an aircraft over a congested area at an altitude of less than 1,000 feet and other violations of the Civil Air Regulations.

#### ORDER No. 1721..... May 8, 1942

Suspended for 30 days private pilot certificate No. 132067 held by Frederick C. Wynne, Wichita Falls, Tex., for piloting an aircraft after sunset while not equipped with proper navigation lights in violation of the Civil Air Regulations.

#### ORDER No. 1722..... May 8, 1942

Revoked student pilot certificate No. S-288945 held by Donald V. Roberts, Eagle, Idaho, for piloting an aircraft carrying passengers and other violations of the Civil Air Regulations.

#### ORDER No. 1723..... May 8, 1942

Permitted Pennsylvania-Central Airlines Corporation to inaugurate nonstop service immediately between Arkon, Ohio, and Washington, D. C.

#### ORDER No. 1724..... May 8, 1942

Permitted Continental Air Lines, Inc., to inaugurate nonstop service immediately between (1) Pueblo, Colo., and Garden City, Kans.; and (2) La Junta, Colo., and Hutchinson, Kans.

#### ORDER No. 1725..... May 8, 1942

Instituted a proceeding to determine whether the certificate of public convenience and necessity issued to Transcontinental & Western Air, Inc., should be amended to include Terre Haute, Ind., as an intermediate point on route No. 2 between St. Louis, Mo., and Indianapolis, Ind.

#### ORDER No. 1726..... May 9, 1942

Authorized immediate inauguration of nonstop service by Pan American Airways, Inc., between (1) San Juan, Puerto Rico, and St. Johns, Antigua, (2) St. Johns, Antigua, and Port of Spain, Trinidad, and (3) Paramaribo, Surinam, and Belem, Brazil.

#### ORDER No. 1727..... May 9, 1942

Temporarily exempted Pan American Airways, Inc. from the provisions of Section 401 (a) of the Civil Aeronautics Act of 1938, as amended, so as to allow the permanent substitution of Ciudad Trujillo, Dominican Republic, for the intermediate point San Pedro de Macoris, Dominican Republic between Miami, Fla., and San Juan, P. R.

#### ORDER No. 1728..... May 11, 1942

Suspended for 6 months private pilot certificate No. 131299 of B. M. Donnell for operating an aircraft on a civil airway when said aircraft was not maintained in condition for safe operation, and other violations of the Civil Air Regulations. (Opinion and order.)

#### ORDER No. 1729..... May 11, 1942

Suspended for 30 days private pilot certificate No. S-204234 of Fletcher L. Rose for flying an aircraft carrying a passenger with the dual controls operative, and other violations of the Civil Air Regulations. (Opinion and order.)

#### ORDER No. 1730..... May 11, 1942

Authorized fair and reasonable rates of compensation for the transportation of mail by Mid-Continent Airlines, Inc., over routes No. 26 and 48.

#### ORDER No. 1731..... May 11, 1942

Granted motion of Pan American Airways, Inc., to reopen record for the purpose of receiving further evidence to determine whether the acquisition of a minority interest in Aerovias de Guatemala, S. A. is a transaction subject to Section 408 of the Civil Aeronautics Act of 1938 as amended.

#### ORDER No. 1732..... May 12, 1942

Dismissed petition of National Airlines, Inc., to amend Order, Serial No. 83 which determined the fair and reasonable rates of compensation for the transportation of mail over routes No. 31 and 39.

#### ORDER No. 1733..... May 13, 1942

Suspended for 15 days private pilot certificate No. 295070 of Wallace D. Smith for flying an aircraft at an altitude of less than 500 feet while practicing maneuvers required for solo practice without said practice being under the supervision of a certificated flight instructor in violation of the Civil Air Regulations. (Opinion and Order.)

#### ORDER No. 1734..... May 13, 1942

Amended Order, Serial No. 1660, to further suspended service at Rock Springs, Wyo., until July 31, 1942.

#### ORDER No. 1735..... May 14, 1942

Reissued certificate of public convenience and necessity heretofore issued to Canadian Colonial Airways, Inc., so as to reflect the change in corporate name to Colonial Airlines, Inc., subject to the provisions of certificate as amended.

#### ORDER No. 1736..... May 15, 1942

Directed Inland Air Lines, Inc., to show cause why the Board should not make final the findings and conclusions



set forth in the Statement of Tentative Findings and Conclusions, dated May 15, 1942 and upon the basis thereof, fix, determine, and publish the rates set forth in said Statement as the fair and reasonable rates of compensation for the transportation of mail over Routes Nos. 28 and 35.

**ORDER No. 1737..... May 18, 1942**

Revoked private pilot certificate No. S-329255 of Phil Dwight Thorpe for flying an aircraft on a civil airway, carrying a passenger other than a certificated instructor, and other violations of the Civil Air Regulations.

**ORDER No. 1738..... May 18, 1942**

Revoked private pilot certificate No. 91431-41 of Robert Rybolt, for operating an aircraft in air commerce without receiving clearance from a properly designated officer, and other violations of the Civil Air Regulations.

**ORDER No. 1739..... May 20, 1942**

Suspended for 30 days private pilot certificate No. 5604-40 of Samuel D. Peterson for flying an aircraft at an altitude of less than 500 feet over open country and other violations of the Civil Air Regulations. (Opinion and Order.)

**ORDER No. 1740..... May 20, 1942**

Denied application of Colonial Airlines, Inc., for authorization to furnish free foreign air transportation to Mr. Edward Dickinson between New York, N. Y., and Montreal, Quebec.

**ORDER No. 1741..... May 22, 1942**

Revoked private pilot certificate No. 77377 held by George McClenan Banzhoff for taking off from an airport without having first obtained clearance, and other violations of the Civil Air Regulations.

**ORDER No. 1742..... May 22, 1942**

Amended order, Serial No. 1544 which suspended private pilot certificate No. 118240 for 6 months beginning February 28, 1942 so as to make the effective date of suspension October 23, 1941. (Opinion and Order.)

**ORDER No. 1743..... May 22, 1942**

Suspended for 45 days private pilot certificate No. 32214-40 held by Hans Gram Birnbaum for performing acrobatic maneuver over a congested area in violation of the Civil Air Regulations.

**ORDER No. 1744..... May 22, 1942**

Postponed effective date of order of the Postmaster General, dated May 12, 1942, ordering Colonial Airlines, Inc., to stop at Albany, N. Y., on its trip 5 to provide for the necessary dispatch of air mail from Albany to New York, pending review by the Board.

**ORDER No. 1745..... May 22, 1942**

Designated the taking of depositions in the matter of H. M. Peters, holder of commercial pilot certificate No. 3769, to determine whether said certificate should be suspended or revoked.

**ORDER No. 1746..... May 22, 1942**

Amended order, Serial No. 1638 to allow Howard Poberezný to exercise the privileges of his student pilot certificate No. S-393757 until July 15, 1942, for the purpose of obtaining British flight training provided that if he is not accepted for such training on or before July 15, said certificate shall be suspended from July 15 until December 5, 1942.

**ORDER No. 1747..... May 25, 1942**

Granted permission to the Antitrust Division of the Department of Justice to intervene in the matter of certain contracts between Railway Express Agency, Inc., and certain airlines.

**ORDER No. 1748..... May 26, 1942**

Authorized Northeast Airlines, Inc., to temporarily suspend service at Lewiston-Auburn, Waterville, Millinocket, and Caribou, Maine, on route No. 27.

**ORDER No. 1749..... May 26, 1942**

Authorized American Airlines, Inc., to temporarily suspend service at Douglas, Ariz., on route No. 4, Niagara Falls, N. Y., on route No. 7, New Haven, Conn., Bridgeport, Conn., Springfield, Mass., on route No. 18 and Elkins, W. Va., on route No. 25.

**ORDER No. 1750..... May 26, 1942**

Authorized American Airlines, Inc., to temporarily suspend service to and from Utica and Albany, N. Y., and Springfield and Boston, Mass., on route No. 21.

**ORDER No. 1751..... May 26, 1942**

Authorized Braniff Airways, Inc., to temporarily suspend service at Galveston, Tex., on route No. 15.

**ORDER No. 1752..... May 26, 1942**

Authorized Continental Air Lines, Inc., to temporarily suspend service on route No. 43.

**ORDER No. 1753..... May 26, 1942**

Authorized Delta Air Corporation to temporarily suspend service at Meridian, Miss. on route No. 24.

**ORDER No. 1754..... May 26, 1942**

Authorized Eastern Air Lines, Inc., to temporarily suspend service on routes Nos. 40 and 47, effective May 27, 1942.

**ORDER No. 1755..... May 26, 1942**

Authorized Inland Air Lines, Inc., to temporarily suspend service on route No. 35.

**ORDER No. 1756..... May 26, 1942**

Authorized Mid-Continent Airlines, Inc., to temporarily suspend service to and from Minot and Bismarck, N. Dak. on route No. 48, and Aberdeen, S. Dak. on route No. 26.

**ORDER No. 1757..... May 26, 1942**

Authorized Northeast Airlines, Inc., to temporarily suspend service between Boston, Mass., and Montreal, Canada, on route No. 27, effective May 27, 1942.

**ORDER No. 1758..... May 26, 1942**

Authorized Northwest Airlines, Inc., to temporarily suspend service between

Spokane, Wash., and Portland, Oreg., on route No. 45, and to and from Yakima and Wenatchee, Wash., on route No. 3.

**ORDER No. 1759..... May 26, 1942**

Authorized Pennsylvania-Central Airlines Corporation to temporarily suspend service on routes No. 34 and 51, and to and from Chicago, Ill., on route No. 32.

**ORDER No. 1760..... May 26, 1942**

Authorized Transcontinental & Western Air, Inc., to temporarily suspend service between St. Louis, Mo., and Cincinnati, Ohio, on route No. 38.

**ORDER No. 1761..... May 26, 1942**

Authorized United Air Lines Transport Corporation to temporarily suspend service at Iowa City, Iowa, Elko, Nev., Lincoln, Nebr. on route No. 1 and Red Bluff, Calif. on route No. 11.

**ORDER No. 1762..... May 26, 1942**

Authorized United Air Lines Transport Corporation to temporarily suspend service between Pendleton, Oreg. and Spokane, Wash. on route No. 1, between Los Angeles, Calif., and San Diego, Calif. on route No. 11, and on route No. 17, effective May 27, 1942.

**ORDER No. 1763..... May 26, 1942**

Authorized Western Air Lines, Inc., to temporarily suspend service at Idaho Falls, Idaho, and Helena, Mont., on route No. 19.

**ORDER No. 1764..... May 26, 1942**

Temporarily exempted Eastern Air Lines, Inc., from the provisions of its certificate of public convenience and necessity for route No. 5 insofar as said certificate would otherwise prevent Eastern from originating flights at Birmingham which terminate at New York, and from originating flights at New York which terminate at Birmingham; provided that Eastern Air Lines shall not serve Birmingham on flights originating or terminating at New Orleans or points south thereof on route No. 5, such exemption to be effective May 27, 1942.

**ORDER No. 1765..... May 26, 1942**

Temporarily exempted Inland Air Lines, Inc., from the provisions of section 401 (a) of the Civil Aeronautics Act of 1938, as amended, insofar as said provisions would otherwise prevent Inland from temporarily engaging in air transportation to and from Denver, Colo., as a temporary terminal point on route No. 28. Such exemption to be effective May 27, 1942, and shall terminate at such time as the Board may revoke the authorization granted to United to suspend service temporarily between Cheyenne, Wyo., and Denver, Colo. (Order, Serial No. 1762.)

**ORDER No. 1766..... May 27, 1942**

Suspended for 6 months, beginning June 1, 1942, private pilot certificate No. 94388 of Alfred Louis Smith for giving flight instruction to students while not possessed of a valid commercial pilot certificate and valid flight instructor rating, and other violations of the Civil Air Regulations.

**ORDER No. 1767----- May 27, 1942**

Suspended for 30 days commercial pilot certificate No. 28971 of Donald Campbell, for flying an aircraft when it was not equipped with position lights and not obtaining proper clearance for flight, in violation of the Civil Air Regulations.

**ORDER No. 1768----- May 29, 1942**

Granted Chicago & Southern Airlines and Eastern Airlines, Inc., permission to intervene in the matter of the applications of Pan Atlantic Steamship Corporation for a certificate of public convenience and necessity authorizing scheduled air transportation of property only.

**ORDER No. 1769----- May 29, 1942**

Adopted order fixing and determining the fair and reasonable rates of compensation for the transportation of mail by Inland Air Lines, Inc., over routes Nos. 28 and 35. (Opinion and order—Docket No. 632.)

**ORDER No. 1770----- May 29, 1942**

Denied applications of West Coast Airlines, Inc., Southwest Airways Co., Western Air Lines, Inc., and United Air Lines Transport Corporation for temporary or permanent certificates of public convenience and necessity under section 401 of the Civil Aeronautics Act of 1938, as amended, authorizing schedule air transportation of mail and property by the pick-up method.

**ORDER No. 1771----- May 29, 1942**

Authorized Eastern Air Lines, Inc., to suspend service temporarily at Brunswick, Ga., and at Daytona Beach, Fla., on its route No. 6.

**ORDER No. 1772----- May 30, 1942**

Authorized American Airlines, Inc., to suspend service temporarily between Albany, N. Y., and New York, N. Y., on route No. 23.

**ORDER No. 1773----- May 30, 1942**

Authorized Delta Air Corporation to suspend service temporarily to and from Monroe, La., on its route No. 24.

## REGULATIONS

**AMENDMENT 01-2----- May 27, 1942**

Effective May 27, 1942:

Part 01 of the Civil Air Regulations is amended as follows:

Add a new section 01.270 to read as follows:

**"01.270 Logbooks for rebuilt aircraft engines.** A new aircraft engine log-book may be used for an aircraft engine rebuilt by the manufacturer. Such log-book shall contain a signed statement, by such manufacturer or his authorized representative, setting forth the date the engine was rebuilt and such other information as the Administrator may deem necessary. Such log-book shall be maintained in accordance with section 01.27, except that the operating history of the engine prior to the date it was rebuilt shall not be required."

**AMENDMENT 15-2----- May 11, 1942**

Effective July 1, 1942:

Part 15 of the Civil Air Regulations is amended as follows:

Strike section 15.104 and insert in lieu thereof the following:

**"15.104 Brakes.**

**15.104 Testing of brakes for certification.**

(a) A wheel-brake combination shall demonstrate satisfactory performance during 100 tests simulating the stopping of an airplane at an average deceleration of at least 10 feet per second per second, from a speed chosen by the applicant. The kinetic energy absorbed per stop shall be computed and the wheel-brake combination shall be certificated for a kinetic energy absorption not in excess of the amount so determined.

(b) To be eligible for use on airplanes certificated in accordance with the transport category requirements of Part 04, a wheel-brake combination shall further demonstrate satisfactory performance during three tests identical with those specified in paragraph (a) except that the speed shall be increased to obtain a kinetic energy absorption 125 percent of that determined under that paragraph.

**15.104-T Adaptation of brakes to airplanes—Transport category.**

(a) An airplane certificated in accordance with the transport category requirements of Part 04 shall make use of wheel-brake combinations for which the summation of the kinetic energy ratings of the brakes used in the main landing gear is at least equal to:

$$K.E. = .0334 W V^2$$
  
where: K.E. = kinetic energy in foot-pounds.

W = the maximum landing weight of the airplane.

V = the power off stalling speed of the airplane in miles per hour at sea level in standard air at maximum landing weight.

(b) The wheel-brake combinations used in such airplane shall have been tested, in determining the kinetic energy absorption under § 15.1040, from a speed lying between 80 and 100 percent of V.

**15.1042 Design.** Brakes shall be free from any undue tendency to lock or jam, and shall be suitably shielded from wafer, mud, and oil.

**15.1043 Static torque.** The maximum available static torque in reverse shall be at least 40 percent of the forward static torque when both are measured at the same applied pedal force.

**15.1044 Adjustment.** When necessary to insure satisfactory performance, the brake mechanism shall be equipped with suitable adjustment devices to compensate for disk or lining wear, heat, and other normal service effects.

**15.1045 Strength.** The brake and all of its attachments to the wheel shall be designed with an ultimate strength sufficient to withstand a torque which is  $1.6WR/B$ , where R is the rolling radius of the tire and B is the number of brakes. A static test of the brake and wheel shall demonstrate that the assembly is capable of withstanding a torque which is 80 percent of the above without yielding to the point of impairing service operation.

**15.1046 Test log.** A log of the test runs shall be submitted together with other calculations which are necessary to indicate compliance with the above brake regulations.

**15.1047 Identification data.** Each certificated brake shall bear the following identification as prescribed in section 15.042 (e): The foot-pounds of kinetic energy for which it is approved."

**AMENDMENT 20-47----- May 22, 1942**

Effective May 22, 1942:

Part 20 of the Civil Air Regulations is amended as follows:

1. Strike section 20.56 (c) and renumber sections 20.56 (d) and 20.56 (e) to read "20.56 (c)" and "20.56 (d)" respectively.

2. Strike the words "limited commercial" as they appear in sections 20.60 (b), 20.60 (c) and 20.60 (d).

3. Strike section 20.613 and insert in lieu thereof the following:

**"20.613 (Unassigned)."**

**AMENDMENT 24-9----- May 12, 1942**

Effective May 12, 1942:

Amend Part 24 of the Civil Air Regulations to read as follows:

Strike the words "May 15, 1942" as they appear in section 24.54 and insert in lieu thereof the words "June 15, 1942."

**AMENDMENT 26-2----- May 1, 1942**

Effective May 1, 1942:

Amend section 26.1 to read as follows:

**"26.1 General.** An applicant must be a citizen of and of unquestionable loyalty to the United States, temperamentally fit, and not less than 21 years of age. He must be able to read, write, and understand the English language, and to speak the English language without any accent or impediment of speech which would interfere with two-way radio conversation."

**AMENDMENT 27-7----- May 12, 1942**

Effective May 12, 1942:

Amend Part 27 of the Civil Air Regulations to read as follows:

Strike the words "May 15, 1942" as they appear in section 27.29 and insert in lieu thereof the words "June 15, 1942."

**AMENDMENT 60-1----- May 11, 1942**

Effective May 11, 1942:

Add a new section 60.960 to read as follows:

**"60.960 Transmission of weather information by pilots during the present war emergency.**

(a) A pilot of aircraft in flight shall transmit weather information only in code: *Provided*, That such information may be transmitted in plain language in extreme emergency involving safety of life or property. In the event of such deviation from code, a report shall be made to the Administrator within 24 hours setting forth fully the reasons therefor.

(b) A pilot of aircraft in flight shall not repeat weather information received from ground stations, or use the terms "On top", "CFR", "CTC/Altitude", and "Altitude/CFR" when transmitting flight plans by radio.

(c) Immediately upon completion of flight, aircraft landing code forms supplied pilots shall be surrendered to the appropriate flight clearance officer, or military, or company operations office, or destroyed where such surrender is impracticable for reasons beyond the control of the pilot. A report shall be made in writing to the Administrator within 24 hours of the destruction of such code setting forth in detail the reasons for such destruction.

[Part 60, as amended to and including Amendment 60-63 (adopted March 25, 1942), is in process of reprinting. This amendment should be retained for attachment to the new edition of Part 60 when received.]

**AMENDMENT 60-2----- May 13, 1942**

Effective May 19, 1942:

Part 60 of the Civil Air Regulations is amended as follows:

Add at the end of section 60.973, a new paragraph to read as follows:

"With respect to compliance with paragraphs (a) and (b) of this section, the operator of a civil aircraft may rely on a certificate signed by an authorized member of the armed forces of the United States that a given shipment meets the requirements of either or both of such paragraphs as the case may be."

[Part 60, as amended, to and including Amendment 60-63 (adopted March 25, 1942), is in process of reprinting. This amendment should be retained for attachment to the new edition of Part 60 when received.]

**AMENDMENT 61-35----- May 1, 1942**

Effective May 1, 1942:

1. Amend section 61.512 to read as follows:

**"61.512 Instrument competency.** The first pilot, in addition to meeting the minimum requirements for an instrument rating provided for in § 20.21 and appropriate provisions of part 21, as the case may be, must prove satisfactorily to the operator's check pilot, within 45 days prior to the end of every 6-month period after entry into the service in accordance with the training program re-

quired by § 61.53, his ability to pilot and navigate by instruments an aircraft of a make and model to be flown by him in the air carrier service. Additional checks may be required by the Administrator at his discretion."

2. Amend section 61.513 to read as follows: "**61.513 Route competency.** Except as provided in § 61.5130 no first pilot shall be deemed competent over any route or part thereof unless he has met the appropriate minimum requirements of part 40 and is listed in the air carrier operating certificate as approved for the route or part thereof."

3. Add a new section 61.5130 to read as follows:

"**61.5130 Adjacent routes.** The first pilot may be deemed competent over any route adjacent to a regular route on which he is presently listed as competent in the air carrier operating certificate if the Administrator finds that:

(1) No part of the center line of the adjacent route is located more than 50 miles from the center line of the regular route.

(2) The terrain along the adjacent route is similar to the terrain on the regular route.

(3) Such pilot has a thorough knowledge of the air navigation facilities located on the adjacent route, and

(4) Such pilot has complied with the provisions of § 40.261 (b) before effecting landings along such adjacent routes."

4. Amend section 61.514 to read as follows:

"**61.514 Route competency expiration.** Except as provided in § 61.5130 the following rules will govern conditions of route competency expiration, as related to first pilots:"

5. Strike the words "6 consecutive months" appearing in section 61.5140 (a) and insert in lieu thereof the following: "12 consecutive months."

6. Strike the words "12 consecutive months" appearing in section 61.5141 (b) and insert in lieu thereof the following: "24 consecutive months."

7. Amend section 61.515 to read as follows: "**61.515 Route competency renewal.** Except as provided in § 61.5130 the following rules will govern conditions of route competency renewal, as related to first pilots:"

8. Strike the words "12 consecutive months" appearing in section 61.5150 (a) and insert in lieu thereof the following: "18 consecutive months."

9. Strike the words "12 consecutive months" appearing in section 61.5151 (b) and insert in lieu thereof the following: "24 consecutive months."

#### REGULATION No. 219----- May 7, 1942

Effective May 15, 1942:

"An air carrier shall have on board aircraft operated in overseas or foreign air transportation between such points as may be designated by the United States military authorities recognition signal devices of the type designated by such authorities. When operating between any such points, each airline pilot and copilot shall use such devices and comply with such recognition procedure as may be prescribed in instructions issued by the United States military authorities."

#### REGULATION No. 220----- May 15, 1942

Effective May 15, 1942:

"Notwithstanding the provisions of section 40.291 of the Civil Air Regulations to the contrary, requiring an air carrier to conduct demonstration flights over a new route in advance of scheduled air carrier operations, United Air Lines is not required to comply with such provisions prior to commencing scheduled air carrier operations over the route between New York, N. Y., and Cleveland, Ohio, via Harrisburg, Pa., Pittsburgh, Pa., and Akron, Ohio. Nothing in the provisions of this regulation shall be deemed to exempt United Air Lines from the provisions of section 40.261(b) regarding the qualifying of pilots over this route, nor from the necessity of obtaining the appropriate amendment to their air carrier operating certificate."

#### REGULATION No. 221----- May 18, 1942

Effective May 18, 1942:

"Notwithstanding the provisions of section 24.52 of the Civil Air Regulations the Forest Service of the Department of Agriculture, or its authorized employees, may manufacture replacement parts for and make repairs to its parachute equipment: *Provided*, That it shall not replace panels or make canopies: *Provided further*, That all replacement parts manufactured and repairs made, shall meet the applicable airworthiness requirements of the Civil Air Regulations."

#### REGULATION No. 222----- May 18, 1942

Effective May 28, 1942:

Section 202.4 of the economic regulations. Adoption of an official direct airport-to-airport mileage record.

1. The direct airport-to-airport mileage record now maintained, and as hereafter amended or revised from time to time, by the Tariffs and Schedules Section of the Economic Bureau of the Civil Aeronautics Board in the regular performance of its duties, is hereby adopted as the official mileage record of the Board and the mileages set forth therein shall be used in all instances where it shall be necessary to determine direct airport-to-airport mileages pursuant to the provisions of Titles IV and X of the Civil Aeronautics Act of 1938, as amended, or any rule, regulation, or order of the Board pursuant thereto.

#### REGULATION No. 223----- May 25, 1942

Effective May 25, 1942:

Repeals Regulation Serial No. 200 and in lieu thereof, promulgates the following special regulation, effective immediately:

"Section 01.13 (1) of the Civil Air Regulations is suspended until such time as the Civil Aeronautics Board shall otherwise order."

#### REGULATION No. 224----- May 28, 1942

SECTION 202.5—REPORTS OF CHANGE IN AIRCRAFT OWNERSHIP OR USE BY AIR CARRIERS.

(a) *Reports on each change.*—Each air carrier engaged in regularly scheduled interstate air transportation within the continental limits of the United States shall execute and file with the Board reports on CAB Form 1029, entitled "Change in Aircraft Ownership, Lease, or Use Status", showing all changes occurring after April 30, 1942, in the ownership, lease, or use status of aircraft owned by, leased to, or operated by, it. Each change shall be reported as soon as it occurs, is contracted, or is proposed, whichever is first known to the reporting air carrier: *Provided*, That changes occurring, contracted, or proposed between April 30, 1942, and the effective date hereof may be filed within ten days after such effective date. "Proposed changes" includes only changes in use specifically ordered or authorized by the military authorities of the United States. In the event a reported contract (or proposed change) is not carried to completion, that fact should be reported to the Board; but an actual transfer made in accordance with a reported contract (or reported proposed change) need not be reported a second time if all conditions remain as first reported.

(b) *Monthly Summary Reports.*—Each air carrier engaged in regularly scheduled interstate air transportation within the continental limits of the United States shall also execute and file with the Board, in duplicate, monthly reports on CAB Form 1030, entitled "Use Status of All Aircraft Owned or Operated During Month", summarizing the aforesaid changes actually made in the ownership, lease, or use status of aircraft for the reported month. The report for May 1942 shall be filed within 10 days after the effective date hereof, and the reports for all subsequent months shall be filed on or before the tenth day of the Month following that for which the report is made.

(c) *Adoption of forms; filing.*—CAB Forms 1029 and 1030 and the instructions and other matter contained therein, and such amendments thereto as may hereafter be approved by the Board, are hereby adopted by the

Board for the purpose of reporting the aforesaid changes. All reports made hereunder shall be sent to the Secretary of the Board.

(d) *Effective date.*—This regulation shall become effective five days after the date hereof.

By the Civil Aeronautics Board:

[s] DARWIN CHARLES BROWN,  
Darwin Charles Brown,

Secretary.

[SEAL]

#### REGULATION No. 225----- May 29, 1942

Effective June 10, 1942:

Amendment No. 1 of section 238.3 of the economic regulations.

Terms, conditions, and limitations of certificates of public convenience and necessity issued under section 401 of the act.

"Subject to the provisions of section 405 (e) of the act, nonstop service may be inaugurated between any two points at any time without the filing of the notice herein prescribed if, during the period from June 1, 1941, to May 31, 1942, inclusive, nonstop service was regularly scheduled by such holder between such points during a period of at least 10 days. This authorization shall remain in effect during the present war and thereafter until the Board shall by order declare the authorization terminated."

#### REGULATION No. 226----- May 30 1942

Effective May 30, 1942:

"1. Notwithstanding the provisions of section 20.614 of the Civil Air Regulations, a certificated commercial pilot not possessed of an instrument rating, employed by Hawaiian Airlines, Limited, as a second pilot, may pilot aircraft carrying persons or property in scheduled day air transportation service pursuant to contact flight rules until sundown, August 31, 1942.

"2. Notwithstanding the provisions of the last sentence of section 40.262 of the Civil Air Regulations, Hawaiian Airlines, Limited, may employ as second pilot in scheduled day air transportation service pursuant to contact flight rules a person, otherwise qualified, who is not possessed of a valid instrument rating or airline transport pilot competency rating, until sundown, August 31, 1942.

"Notwithstanding the provisions of section 61.522 of the Civil Air Regulations, it shall not be necessary until sundown, August 31, 1942, for any person employed as a second pilot by Hawaiian Airlines, Limited, to have his log-book certified that he is capable of flying by instruments and has demonstrated such fact to either a first pilot, check pilot, or to the chief pilot of the air carrier."

### Note

Any amendments to the Civil Air Regulations which may have been adopted after the JOURNAL has gone to press will be included in the following issue.

### High Reclamation Ratio

Britain's R. A. F. has been supplied with 60 planes salvaged and repaired for every 100 aircraft built from new materials, according to an announcement of the Air Ministry. Perfect operational planes are thus made virtually out of spare parts rescued from crashed machines. The R. A. F. evidently believes that a plane saved is a plane earned.

YOU CAN'T KEEP A GOOD PLANE DOWN!



# Status of Parts of the Civil Air Regulations and Regulations of the Administrator of Civil Aeronautics

As of June 1, 1942

All persons affected by these Regulations, including those preparing for examinations for certificates may obtain required Parts of the Regulations from the Publications and Statistics Division, Civil Aeronautics Administration, Washington, D. C., without charge.

## ONLY PARTS NEEDED SUPPLIED FREE

For example, pilots are governed in general by Parts 01., 20., 60., and 98.; aircraft mechanics by Parts 01., 04., 15., 18., 24., 95., and Section 60.32; and aircraft engine mechanics by Parts 01., 04., 13., 14., 18., 24., and 98. It should be remembered that individuals are entitled to receive free of charge only those portions of the Regulations which directly govern the activity in which they are engaged and this activity must be definitely stated when request is made.

## HOW TO OBTAIN PARTS, AMENDMENTS, AND MANUALS

Those persons not affected by the Regulations, but desiring all or any part of the

Regulations for other purposes, may obtain them as follows: Those Parts on which a price is listed in the tabulation below are on sale by the Superintendent of Documents, U. S. Government Printing Office (shown as G. P. O. in table), Washington, D. C., and are not available for free distribution except as stated in the first paragraph.

Eventually, all Parts will be placed on sale; meanwhile, Parts not yet on sale (carrying remark in tabulation below "order from C. A. A. only") may be obtained without charge from the C. A. A. upon demonstration of valid interest on the applicant's part.

ALL AMENDMENTS TO THE REGULATIONS, AND NOTICE OF NEW PARTS, ARE PRINTED IN THE CIVIL AERONAUTICS JOURNAL, AS RELEASED.

The tabulation below carries in the right-hand column the numbers of all effective amendments to each Part issued subsequent to its publication. Parts ordered from C. A. A. include all effective amendments,

but when Parts are purchased from G. P. O. amendments must be requested separately from C. A. A.

Civil Aeronautics Manuals supplementing certain Parts with detailed interpretations of their respective provisions are issued. They are numbered the same as the Parts they supplement, and those Parts accompanied by Manuals carry appropriate notations. All Manuals are obtained from C. A. A. only, without charge.

## PARTS CANCELLED AND UNASSIGNED

Cancelled Parts 00. and 03. now incorporated in Part 01.; cancelled Part 23. now incorporated in Part 51.; and cancelled Part 25. now incorporated in Part 24. Parts 90-96., inclusive, cancelled. All other Part numbers not shown are unassigned.

Bound volumes of the complete Civil Air Regulations are no longer available. Parts and amendments are punched for filing in loose-leaf binders.

## Civil Air Regulations

PART No.	TITLE	DATE	REMARKS	PRICE	EFFECTIVE AMENDMENTS
01	AIRWORTHINESS CERTIFICATES.....	11-1-41	In stock at C. A. A. and on sale at G. P. O.....	\$0.05	01-1 <sup>1</sup> Spec. Reg. Ser. 200.
02	TYPE AND PRODUCTION CERTIFICATES.....	3-1-41	In stock at C. A. A. and on sale at G. P. O.....	.05	
04	AIRPLANE AIRWORTHINESS (MANUAL 04, 2-1-41) <sup>1</sup> .....	4-1-41	In stock at C. A. A. and on sale at G. P. O.....	.15	116, 129, 04-3 thru 04-10, <sup>1</sup> 04-11, 04-12, <sup>1</sup> 04-13. <sup>1</sup>
13	AIRCRAFT ENGINE AIRWORTHINESS (MANUAL NOT ISSUED).....	8-1-41	In stock at C. A. A. and on sale at G. P. O.....	.05	
14	AIRCRAFT PROPELLER AIRWORTHINESS (MANUAL 12-1-38).....	11-15-40	In stock; order from C. A. A. only.....		14-1.
15	AIRCRAFT EQUIPMENT AIRWORTHINESS (MANUAL 15, OUT OF STOCK).....	11-15-40	In stock; order from C. A. A. only.....		15-1. <sup>1</sup>
16	AIRCRAFT RADIO EQUIPMENT AIRWORTHINESS (MANUAL 2-13-41) <sup>1</sup> .....	2-13-41	In stock at C. A. A. and on sale at G. P. O.....	.05	
18	MAINTENANCE, REPAIR, AND ALTERATION OF CERTIFICATED AIRCRAFT AND OF AIRCRAFT ENGINES, PROPELLERS, AND INSTRUMENTS. (MANUAL 18, 6-1-41, OUT OF STOCK).....	6-1-41	In stock; order from C. A. A. only.....		
20	PILOT CERTIFICATES.....	5-1-40	In stock at C. A. A. and on sale at G. P. O.....	.05	63, 65, 67, 75, 87, 99, 101, 107, 110, 111, 112, 115, 117, 118, 120, 127, 20-22 thru 20-45.
21	AIRLINE TRANSPORT PILOT RATING.....	11-15-40	In stock; order from C. A. A. only.....		87, 101, 115, 21-4, 21-5.
22	LIGHTER-THAN-AIR PILOT CERTIFICATES.....	9-15-41	In stock at C. A. A. and on sale at G. P. O.....	.10	22-1 thru 22-4.
24	MECHANIC CERTIFICATES.....	5-1-40	In stock at C. A. A. and on sale at G. P. O.....	.05	44, 61, 73, 75, 87, 100, 24-7, 24-8, <sup>1</sup> 24-9.
26	AIR-TRAFFIC CONTROL TOWER OPERATOR CERTIFICATES.....	2-3-42	To be available soon at C. A. A. and on sale at G. P. O.....		26-1 <sup>1</sup> , 26-2.
27	AIRCRAFT DISPATCHER CERTIFICATES.....	7-15-40	In stock at C. A. A. and on sale at G. P. O.....	.05	74, 75, 87, 27-4, 27-5, 27-6, <sup>1</sup> 27-7.
40	AIR CARRIER OPERATING CERTIFICATION.....	11-1-40	In stock at C. A. A. and on sale at G. P. O.....	.05	85, 89, 102, 129, 133, 40-6, <sup>1</sup> 40-7, <sup>1</sup> 40-8 thru 40-10.
50	FLYING SCHOOL RATING (MANUAL 50, 12-40) <sup>1</sup> .....	11-1-40	In stock at C. A. A. and on sale at G. P. O.....	.05	87, 113, 50-3, Reg. Ser. 216. <sup>7</sup>
51	GROUND INSTRUCTOR RATING.....	5-1-40	In stock at C. A. A. and on sale at G. P. O.....	.05	75, 87, 128, 51-4, 51-5, <sup>1</sup> 51-6.
52	REPAIR STATION RATING (MANUAL 52, 2-41).....	5-1-40	In stock at C. A. A. and on sale at G. P. O.....	.05	75, 84, 87.
53	MECHANIC SCHOOL RATING (MANUAL 53, 5-40).....	9-15-40	In stock at C. A. A. and on sale at G. P. O.....	.05	75, 87, 53-3.
60	AIR TRAFFIC RULES (MANUAL 60; PART 1, 12-1-40; PART 2, 8-1-40; PART 3, 12-1-40).....	10-4-40	In stock at C. A. A. and on sale at G. P. O.....	.10	80, 90, 93, 102, 104, 110, 120, 121, 127, 135, 60-25 thru 60-44, 60-46 thru 60-48, 60-50 thru 60-58, 60-59, <sup>1</sup> 60-60, <sup>1</sup> 60-61 thru 60-63, Spec. Reg. Ser. 177.
61	SCHEDULED AIR CARRIER RULES.....	1-1-41	In stock at C. A. A. and on sale at G. P. O.....	.05	91, 94, 97, 102, 115, 120, 122, 129, 130, 132, 134 61-17, thru 61-19, 61-20, <sup>1</sup> 61-21 thru 61-32, 61-35, Spec. Reg. Ser. 182, 188, 192.
98	FOREIGN AIR CARRIER REGULATIONS.....	<sup>1</sup> 1-15-42	In stock at C. A. A. and on sale at G. P. O.....	.05	
99	DEFINITIONS.....	11-15-40	In stock; order from C. A. A. only.....		98-1.
99	MODE OF CITATION OF REGULATIONS.....	11-15-40	In stock; order from C. A. A. only.....		

## Regulations of the Administrator

501	AIRCRAFT REGISTRATION CERTIFICATES.....	11-1-41	In stock; order from C. A. A. only.....		
510	GENERAL REGULATIONS, WASHINGTON NATIONAL AIRPORT.....	9-26-41	In stock; order from C. A. A. only.....		
511	GENERAL AERONAUTICAL RULES FOR THE WASHINGTON NATIONAL AIRPORT.....	9-26-41	In stock; order from C. A. A. only.....		
525	NOTICE OF CONSTRUCTION OR ALTERATION OF STRUCTURES ON OR NEAR CIVIL AIRWAYS.....	11-1-41	In stock; order from C. A. A. only.....		
531	SECURE OF AIRCRAFT.....	12-8-41	In stock; order from C. A. A. only.....		
600	DESIGNATION OF CIVIL AIRWAYS.....	3-1-42	Not published (See Air Navig. Radio Aids).....		1, 2, 3.
601	DESIGNATION OF AIRWAY TRAFFIC CONTROL AREAS, ETC.....	1-15-42	Not published (See Air Navig. Radio Aids).....		1 thru 9.

<sup>1</sup> Amendments issued as C. & I. Release No. 50, 6-3-41, and S. R. Release No. 97, 2-23-41 (out of stock).

<sup>2</sup> Amendment No. 1 issued as S. R. Release No. 62, 8-12-41.

<sup>3</sup> Amendment 4-14-41 issued as S. R. Release No. 77, 11-13-41.

<sup>4</sup> Effective date suspended until 3-1-52 by Order No. 1490.

<sup>5</sup> Effective 7-1-42.

<sup>6</sup> Effective 5-15-42 (No copies available. Requires identification cards. Consult C. A. A. inspector for specific provisions of this amendment.)

<sup>7</sup> No copies available (waiver of requirements). Consult C. A. A. inspector for specific provisions of this amendment.

